

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A method for operably applying a phased array antenna system for a mobile platform, the method comprising:
 - disposing a transmit antenna within ~~at least one~~ a first antenna housing;
 - locating a receive antenna within ~~the at least one~~ a second antenna housing independently positioned on the mobile platform with respect to the first housing;
 - converting a receive antenna signal to an aircraft communication frequency signal within the ~~at least one~~ second antenna housing;
 - changing the aircraft communication frequency signal into a transmit antenna signal within the ~~at least one~~ first antenna housing; and
 - transmitting the transmit antenna signal from the transmit antenna.
2. (original) The method of Claim 1, further comprising:
 - positioning a converter within each antenna housing;
 - connecting an aircraft transfer power with the converter; and
 - converting the aircraft transfer power to a phased array antenna power with the converter.

3. (currently amended) The method of Claim 1, further comprising:
locating a first frequency converter within the ~~at least one~~ second antenna housing; and
converting the receive antenna signal to the aircraft communication frequency signal with the first frequency converter.

4. (currently amended) The method of Claim 3, further comprising:
positioning a second frequency converter within the ~~at least one~~ first antenna housing; and
converting the aircraft communication frequency signal to the transmit antenna signal with the second frequency converter.

5. canceled

6. (original) The method of Claim 1, further comprising:
selecting the receive antenna signal from a frequency ranging from approximately 12 GHz to approximately 20 GHz;
operating the aircraft communication frequency signal at a frequency of approximately 1 GHz; and
transmitting the transmit antenna signal at a frequency ranging from approximately 14 GHz to approximately 44 GHz.

7. (currently amended) The method of Claim 1, comprising outputting the aircraft communication frequency signal from the ~~at least one~~ second antenna housing to the mobile platform.

8. (currently amended) A method for forming a phased array antenna communication system for external mounting on a mobile platform, the method comprising:

separably mounting a transmit antenna and a receive antenna to an external surface of the mobile platform;

housing the transmit antenna together with a transmit antenna equipment group in a first housing;

enclosing the receive antenna together with a receive antenna equipment group in a second housing independent of the first housing; and

communicating an aircraft communication signal with each equipment group.

9. (currently amended) The method of Claim 8, comprising converting an aircraft service voltage to an antenna power transfer voltage within an envelope of the mobile platform.

10. (currently amended) The method of Claim 9, comprising converting between the antenna power transfer voltage ~~at each antenna to~~ and an antenna operating voltage within each of the first and second housings.

11. (original) The method of claim 10, further comprising converting the antenna operating voltage within each antenna to about 5 volts direct current to operate each antenna.

12. (original) The method of claim 8, further comprising:
arranging a first set of phased array antenna elements in a grid formation at a transmit antenna upper surface; and
configuring a second set of phased array antenna elements in the grid formation at a receive antenna upper surface.

13. (original) The method of claim 8, further comprising:
electrically connecting each antenna with an aircraft internally mounted receiver; and
selecting a frequency of approximately one GHz for the aircraft communication signal to decrease a signal attenuation and increase a distance range between each antenna and the aircraft internally mounted receiver.

14. (original) The method of claim 8, comprising operating the receive antenna to receive a plurality of data communication signals between about 12 GHz and about 20 GHz.

15. (original) The method of claim 14, comprising operating the transmit antenna to transmit the data communication signal between about 14 GHz and about 44 GHz.

16. (currently amended) A method for adapting an aircraft phased array antenna communication system providing antennas and conversion equipment in aircraft mounted structure, the method comprising:

externally mounting at least two antenna discs on an aircraft fuselage, each disc including one of a transmit antenna and a receive antenna;

separately locating each of the transmit antenna and the receive antenna in one of a transmit antenna and receive antenna housing, the transmit and receive antenna housings oriented in a fore-aft configuration with respect to each other;

arranging a plurality of phased array antenna elements in both the transmit antenna and the receive antenna; and

converting an ~~aircraft service voltage~~ antenna power transfer voltage to a phased array antenna operating voltage within each ~~disc~~ housing.

17. (currently amended) The method of Claim 16, comprising:
positioning a power and control equipment group within each ~~disc~~ housing; and

converting between an aircraft communication signal frequency using the equipment group and one of a transmit frequency and a receive frequency.

18. (currently amended) The method of claim 17, comprising ~~converting the aircraft service voltage to an~~ applying the antenna operating voltage in a range of about 5 3 to 6 volts direct current within each of the ~~two antennas~~ dises.

19. (currently amended) The method of claim 17, comprising:
up-converting the aircraft communication signal frequency to the
transmit frequency in a the transmit antenna ~~dis~~ housing; and
down-converting the receive frequency to the aircraft
communication signal frequency in a the receive antenna ~~dis~~ housing.

20. (original) The method of Claim 17, comprising selecting the aircraft communication signal frequency from a frequency ranging between an ultra-high frequency and an L-band frequency.

21. (original) The method of Claim 17, comprising selecting the aircraft communication signal frequency at about one GHz.

22. (currently amended) The method of Claim 19, comprising positioning an up-converter within the transmit antenna ~~dis~~ housing.

23. (currently amended) The method of claim 19, comprising positioning a down-converter within the receive antenna ~~dis~~ housing.

24. (currently amended) The method of Claim 16, comprising mounting the antenna ~~dises~~ housings on an upper surface location of the aircraft fuselage and proximate to a wing leading edge intersection with the aircraft fuselage.